

*FIG. 1*

1052270-2027760

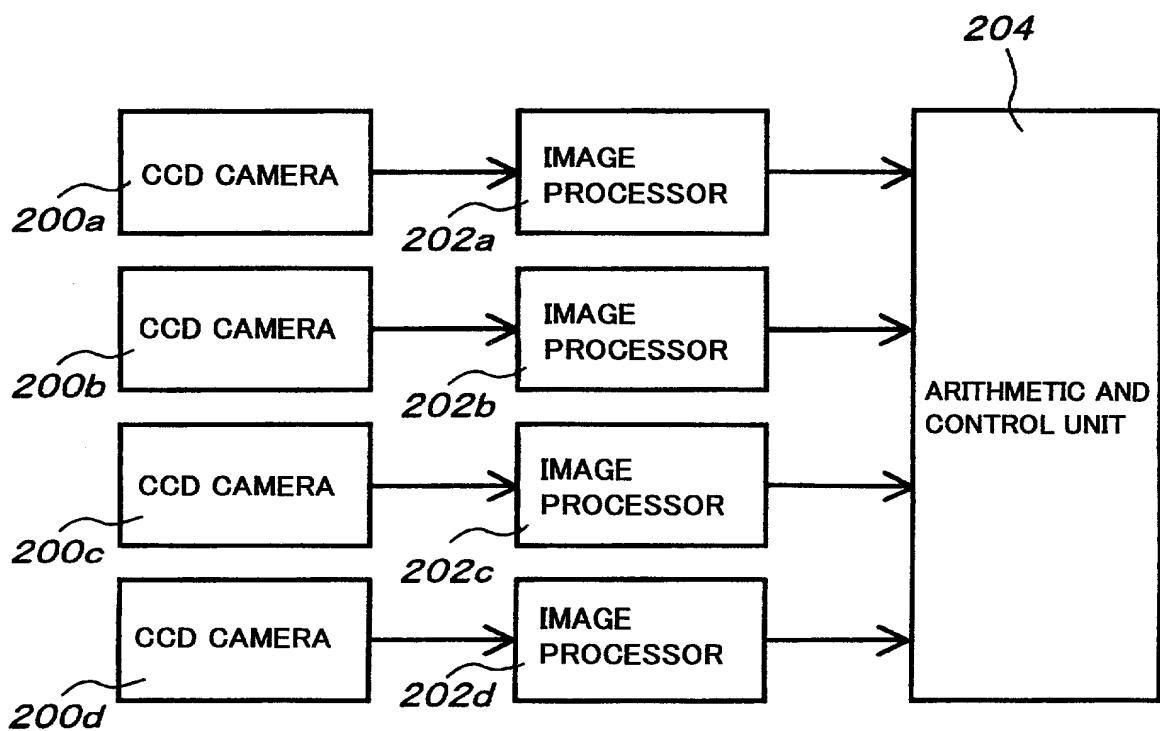
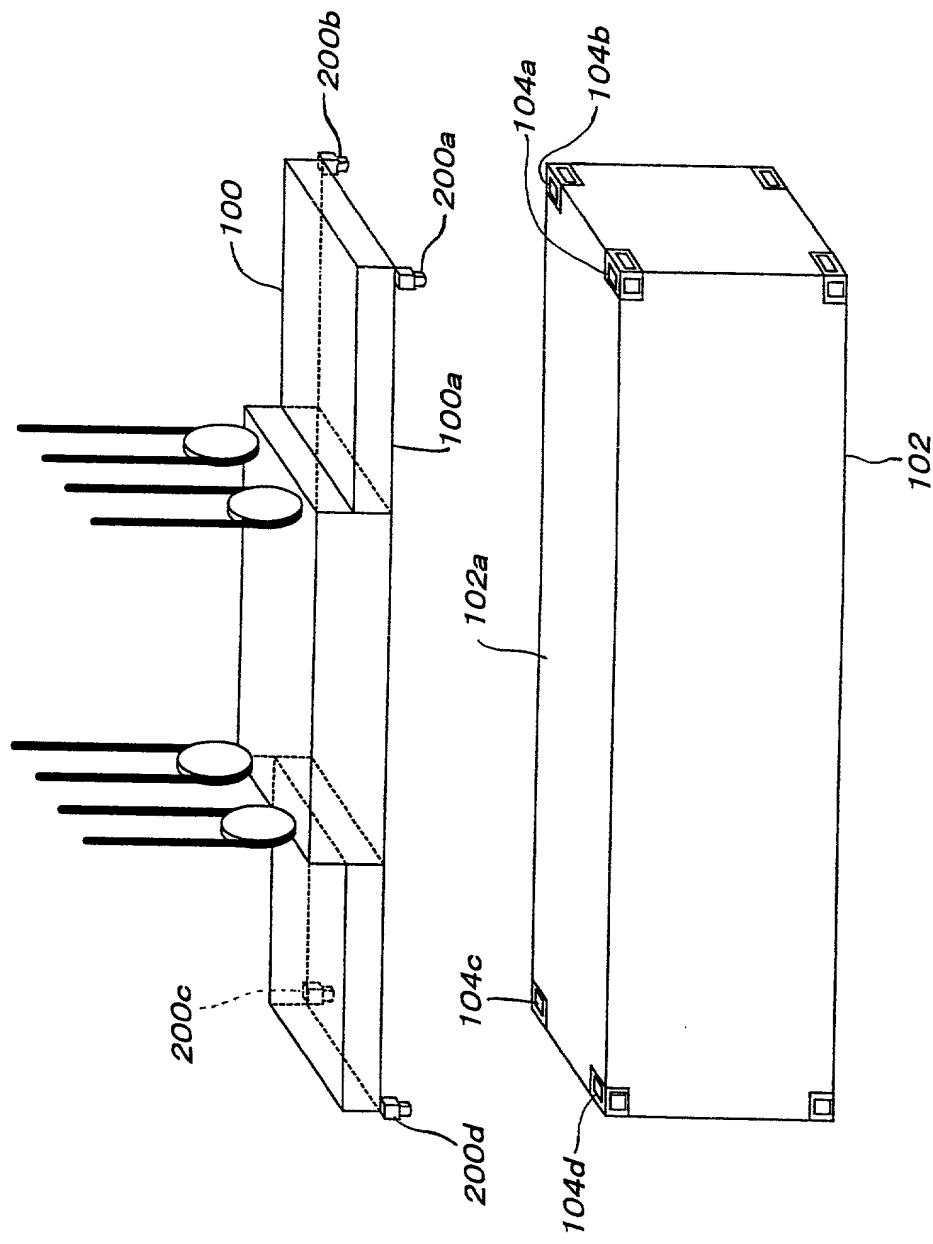
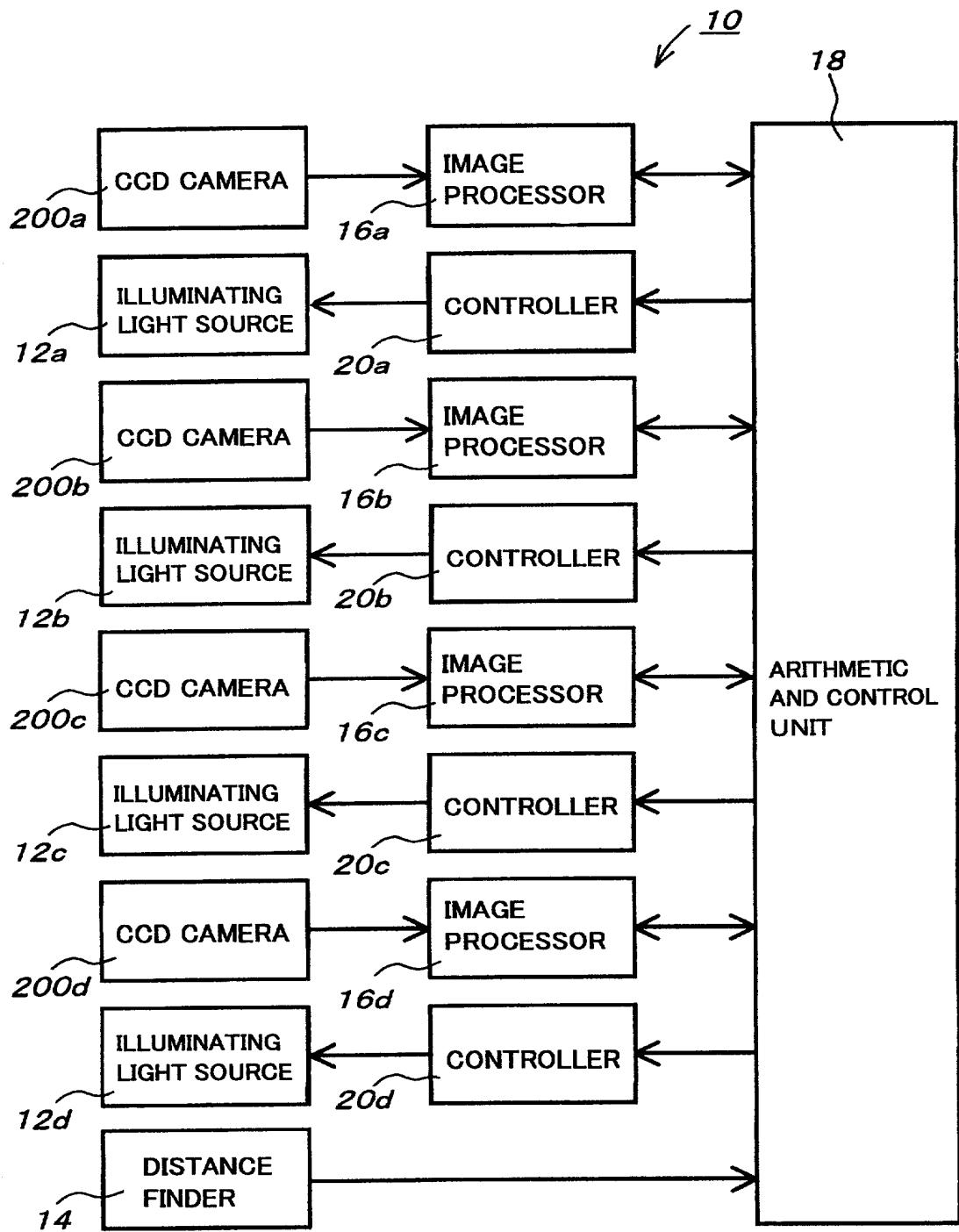


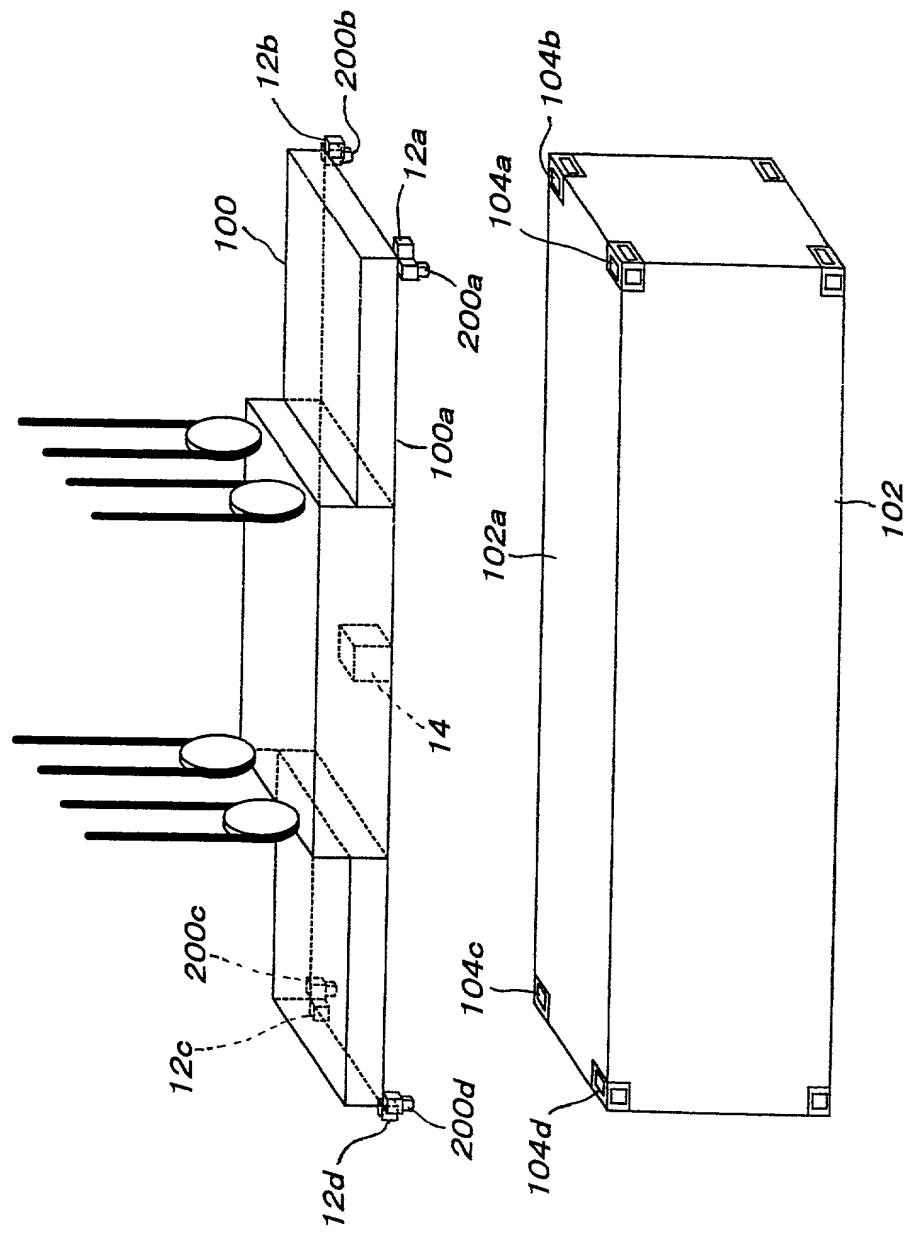
FIG. 2



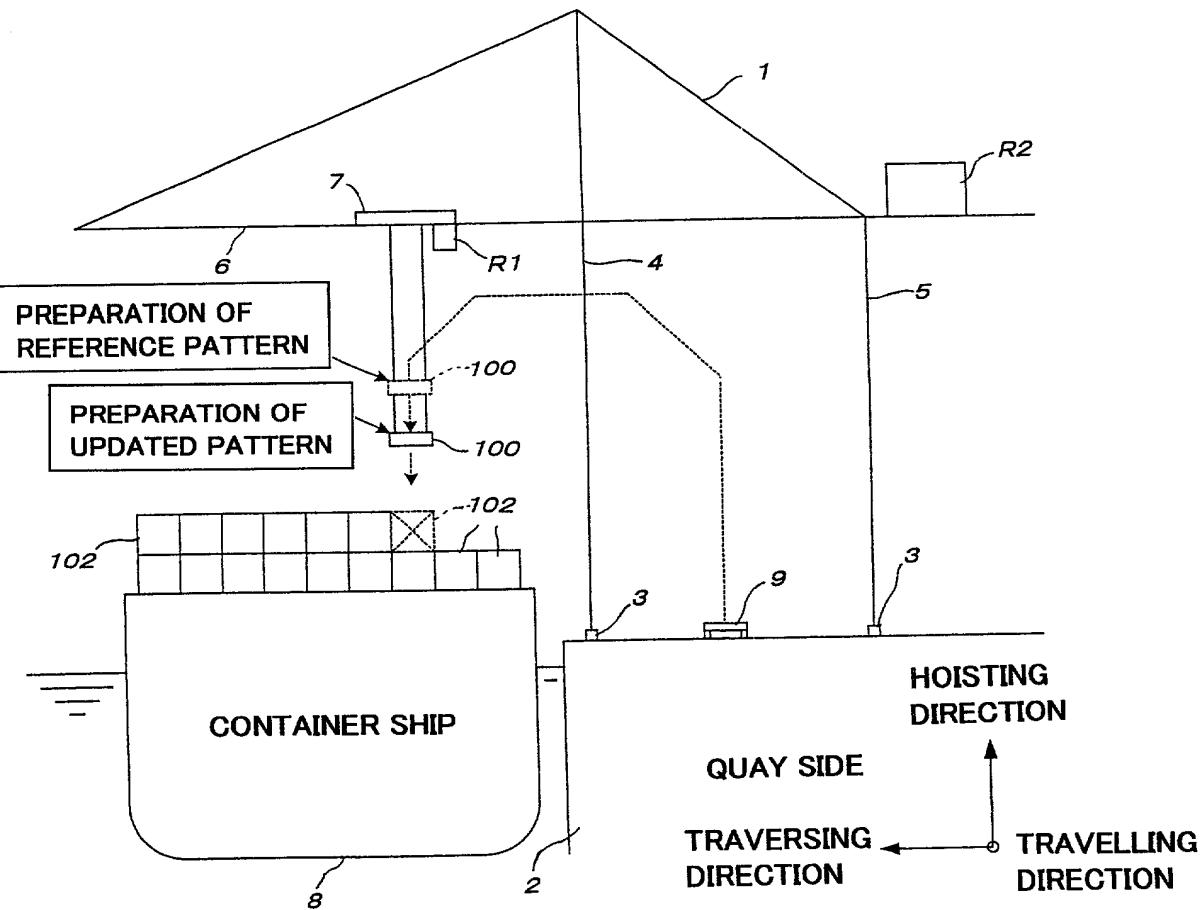
**FIG. 3**



*FIG. 4*



**FIG. 5**



*FIG. 6*

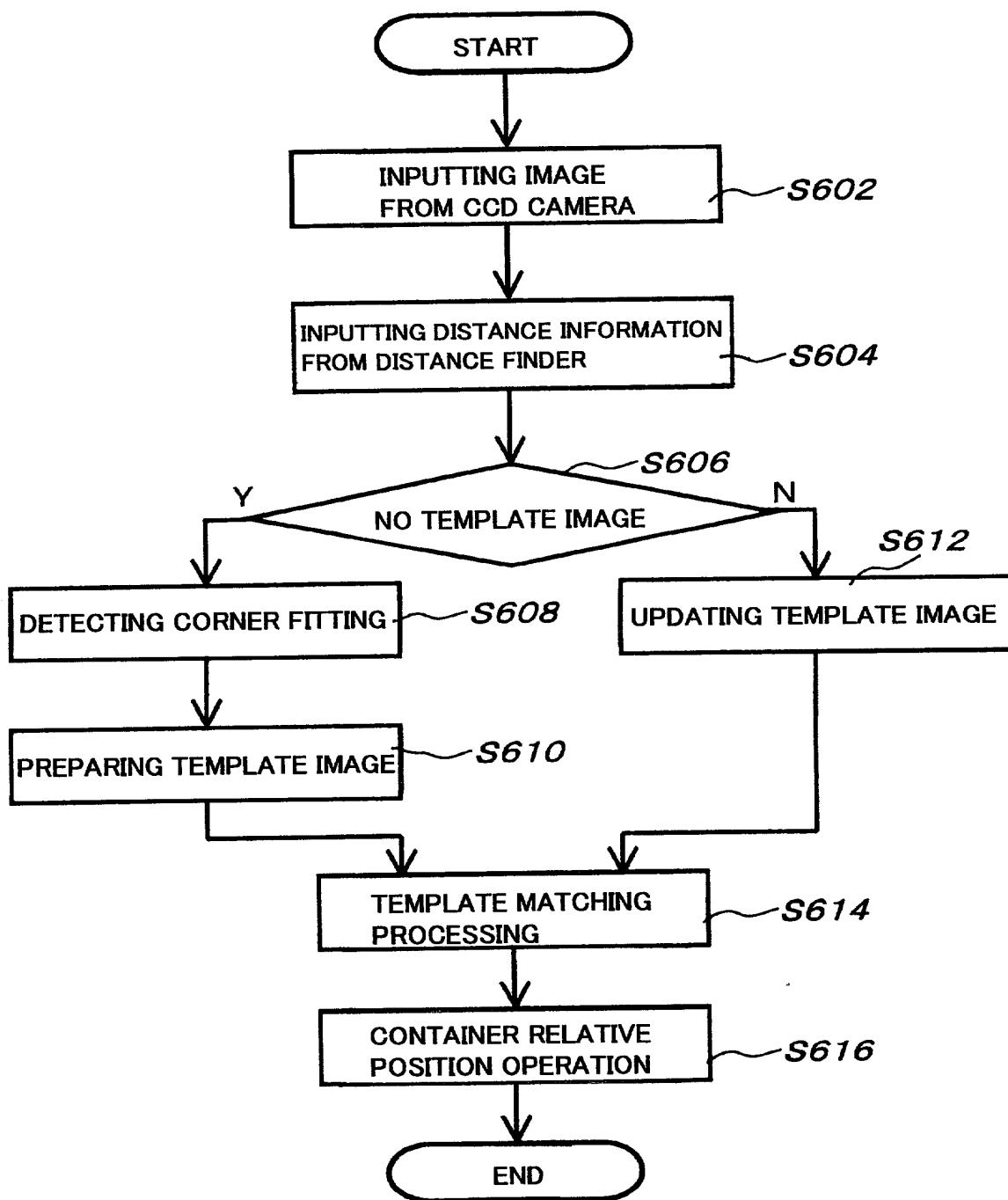


FIG. 7(a)

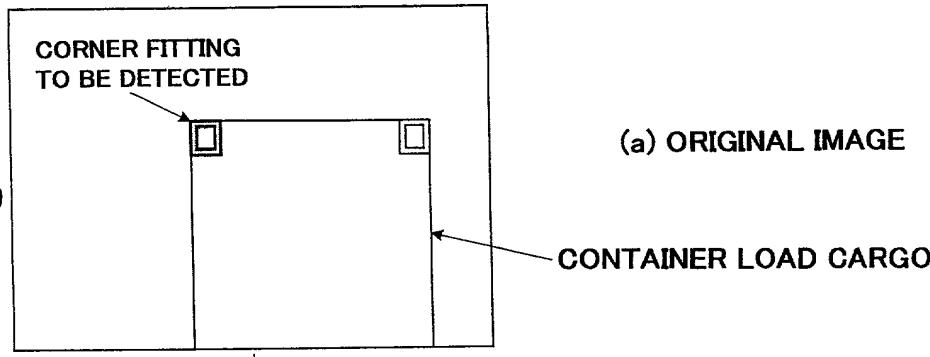


FIG. 7(b)

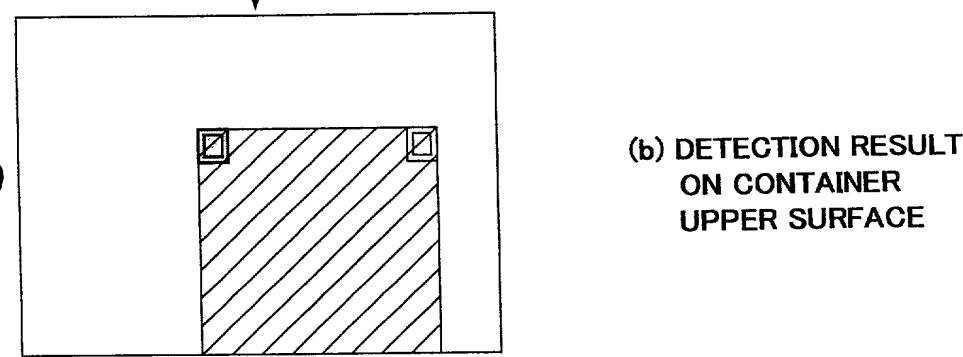


FIG. 7(c)

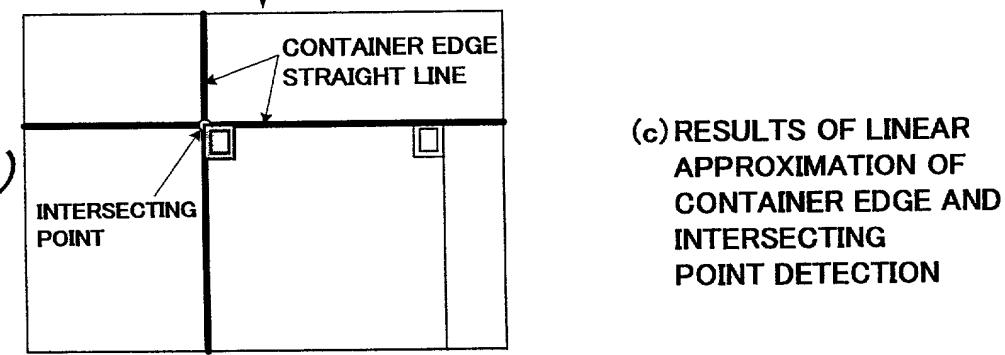
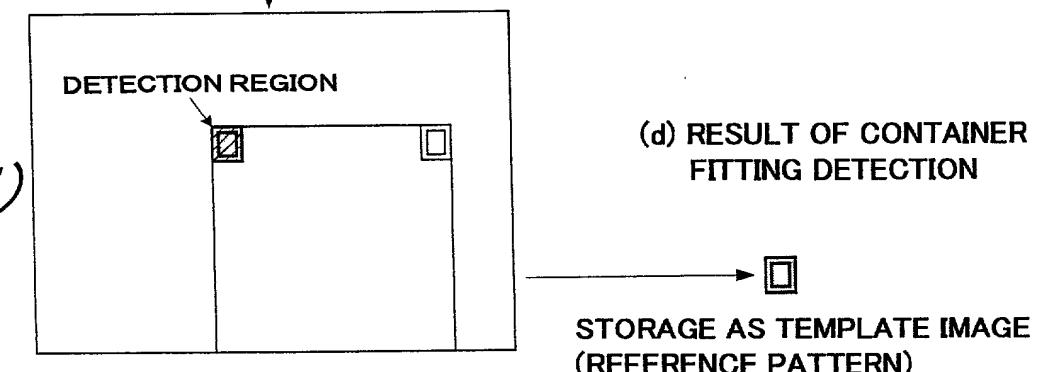


FIG. 7(d)



*FIG. 8*

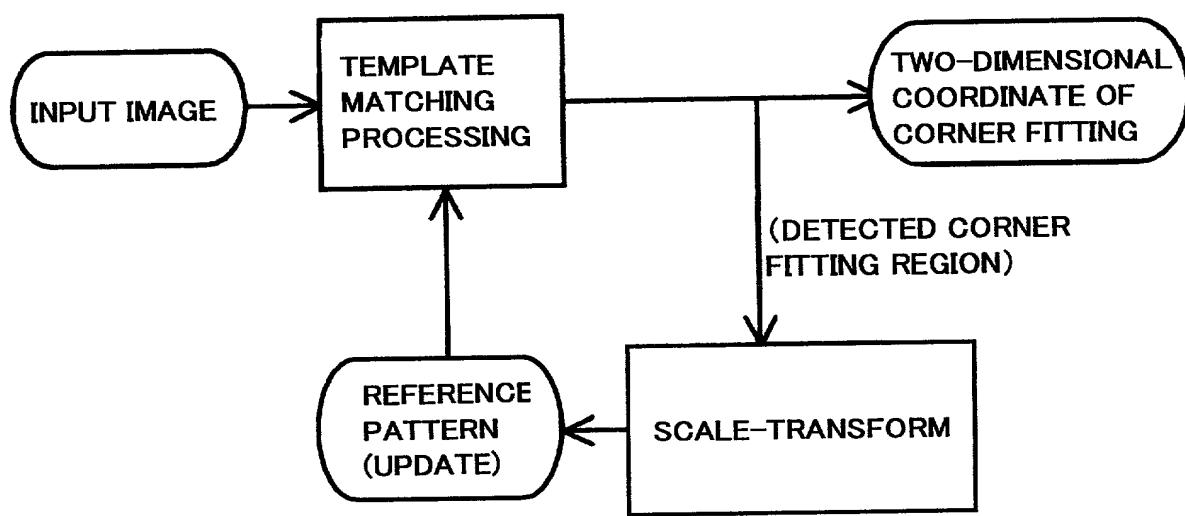
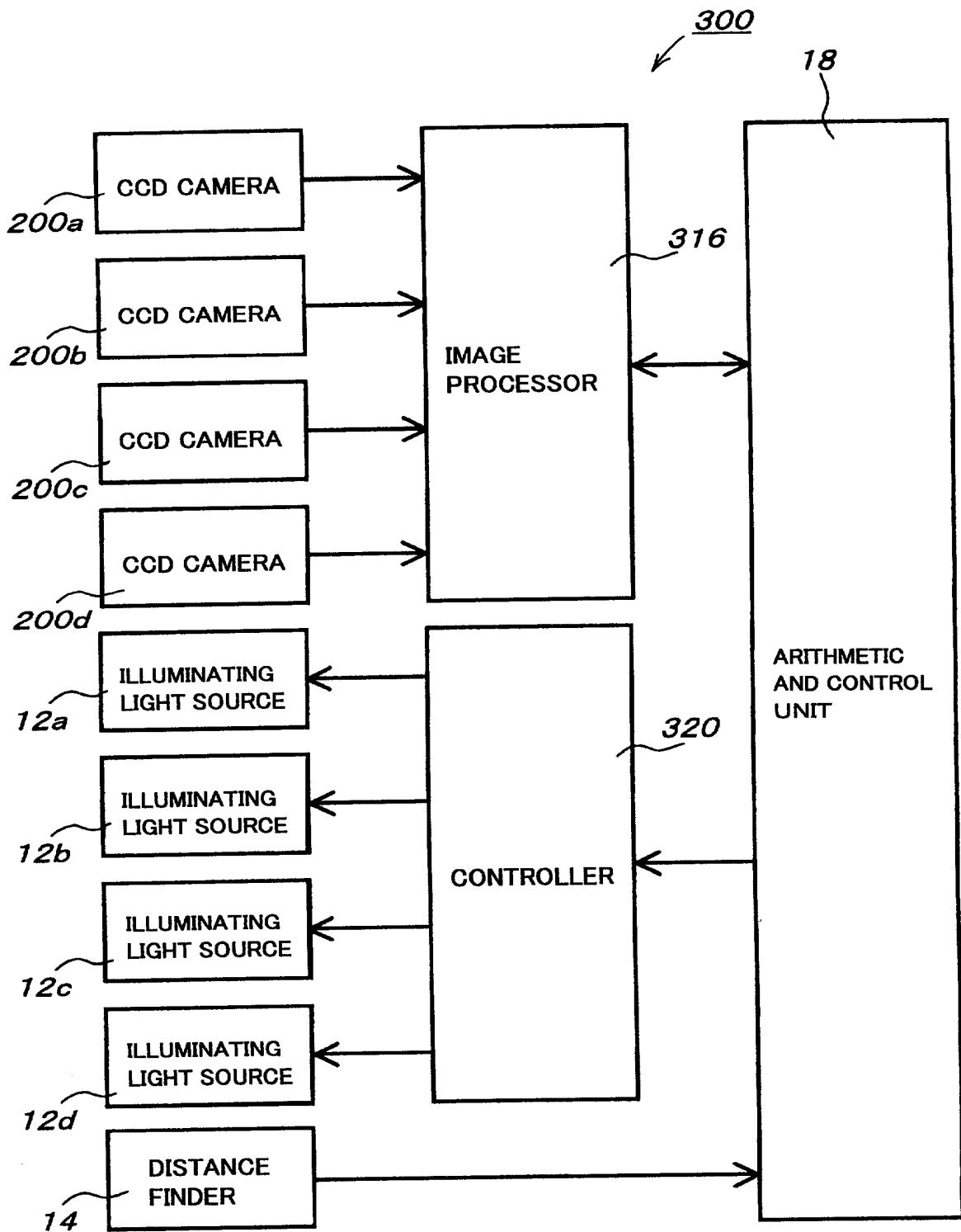


FIG. 9



*FIG. 10*

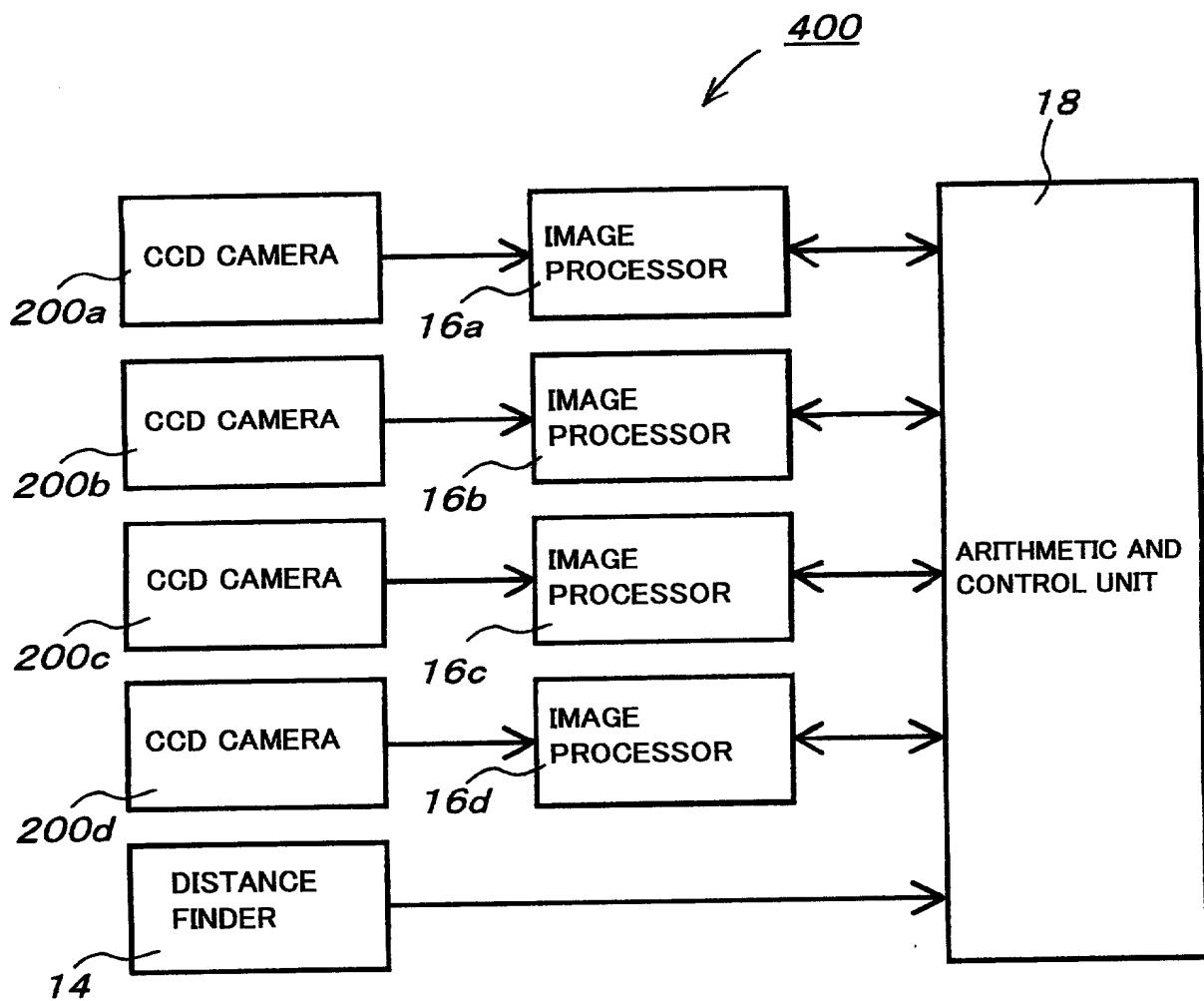
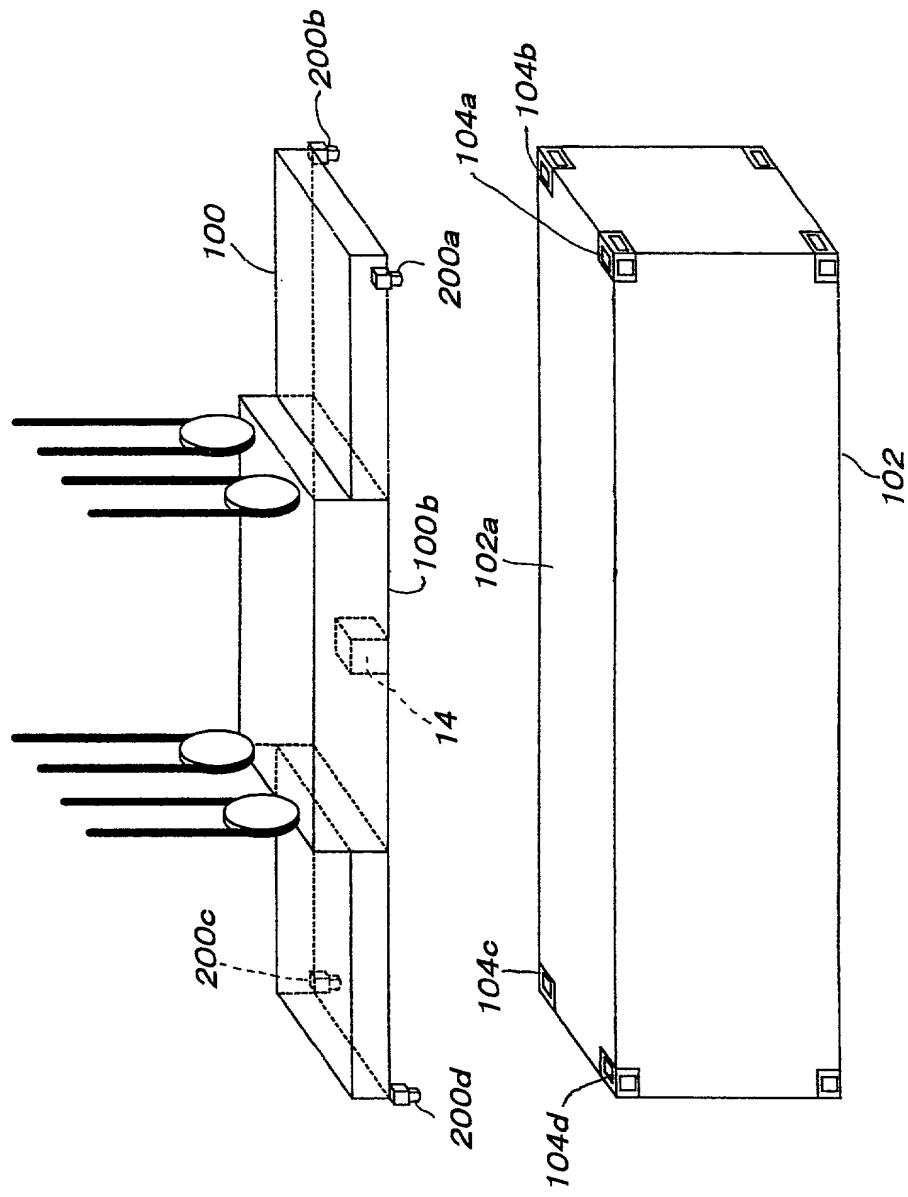
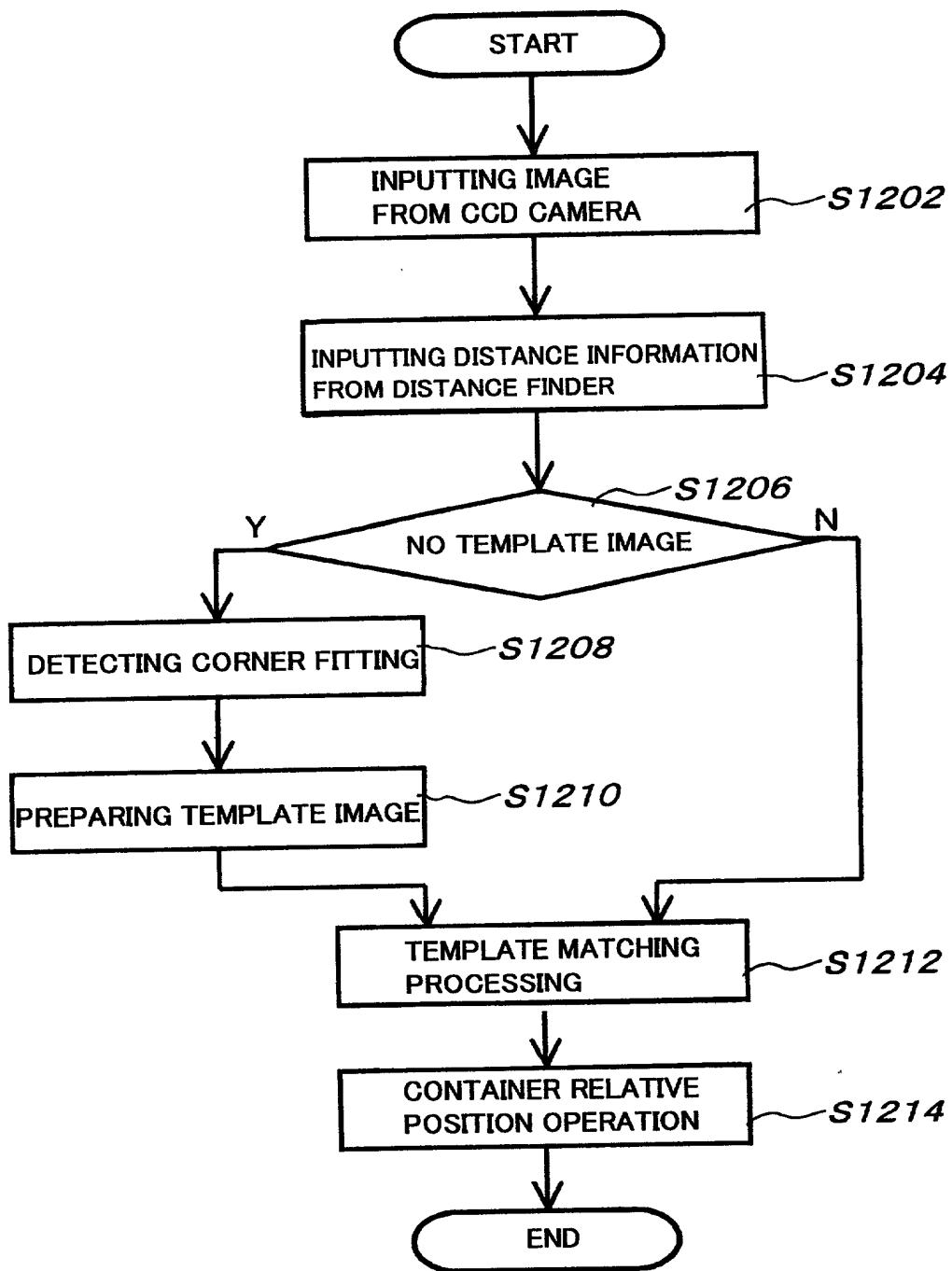


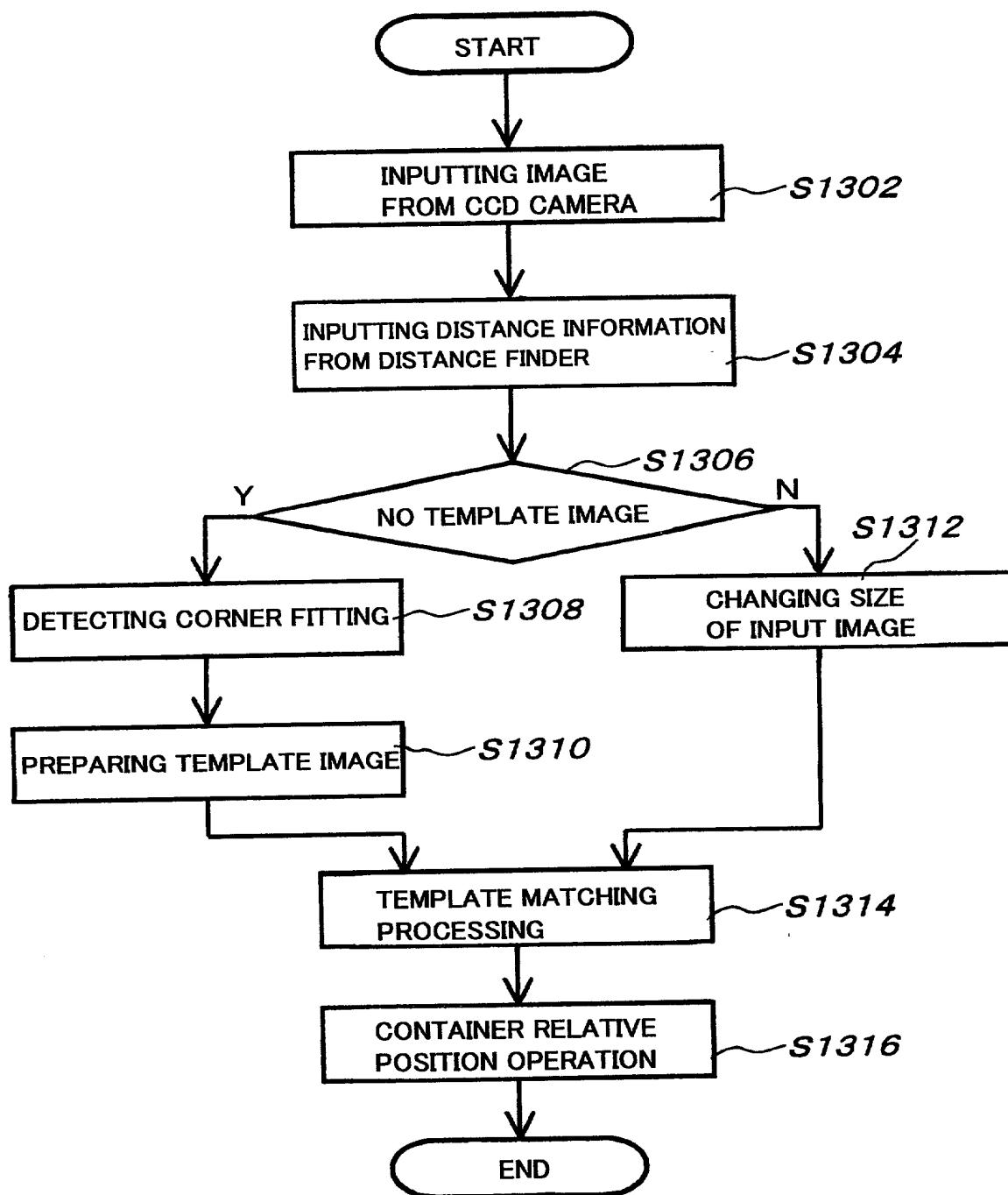
FIG. 11



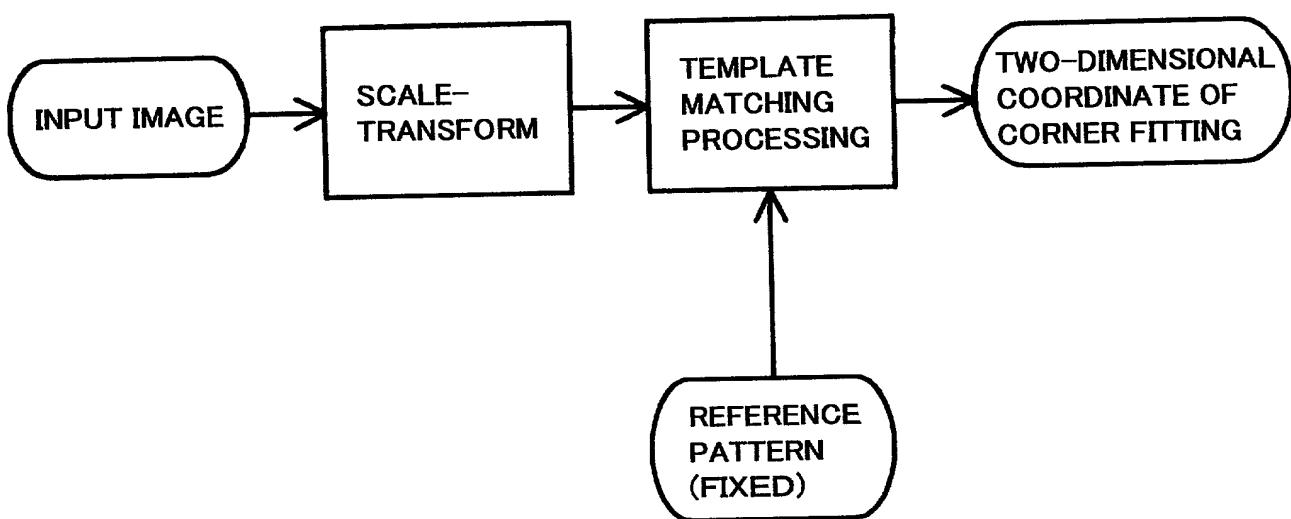
*FIG. 12*



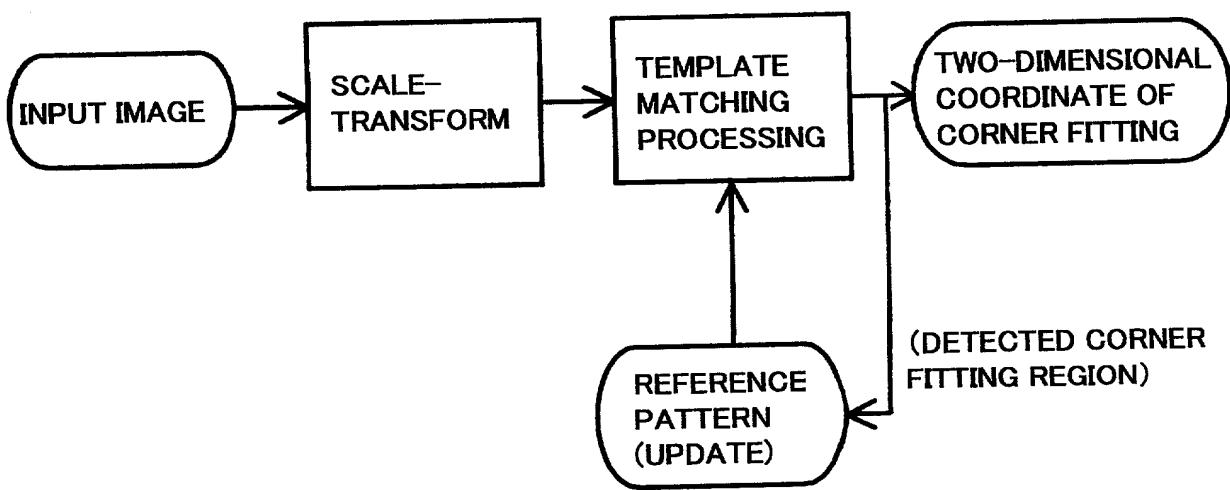
*FIG. 13*



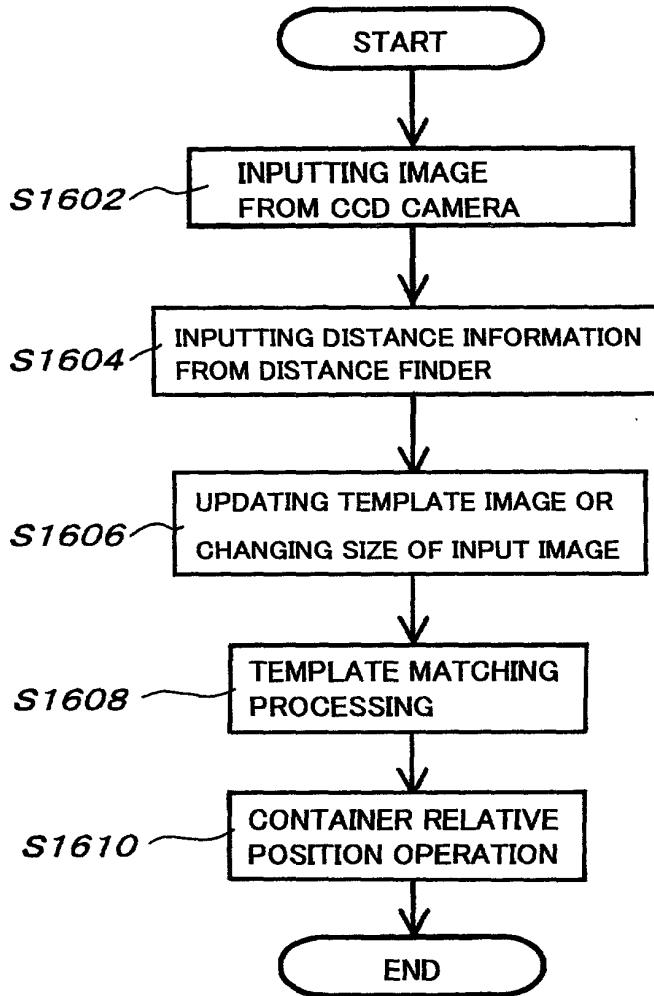
*FIG. 14*



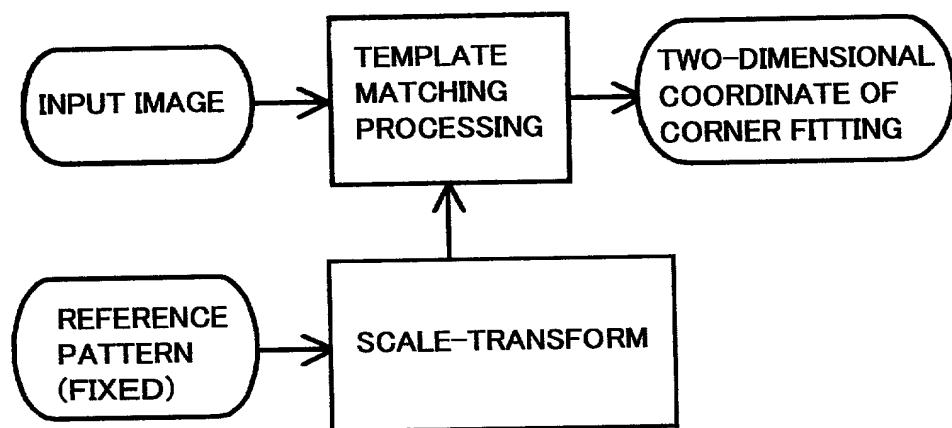
*FIG. 15*



*FIG. 16*



*FIG. 17*



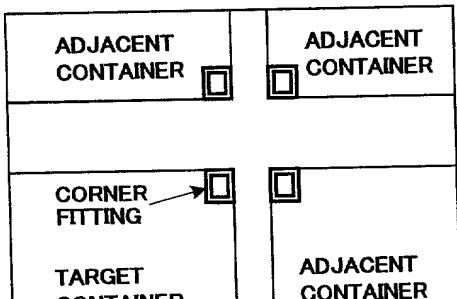
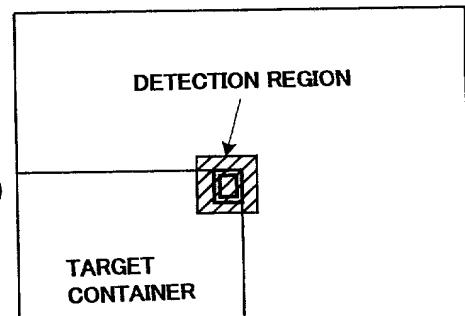


FIG. 18(a)

ORIGINAL IMAGE

FIG. 18(d)



SETTING-UP OF  
DETECTION REGION

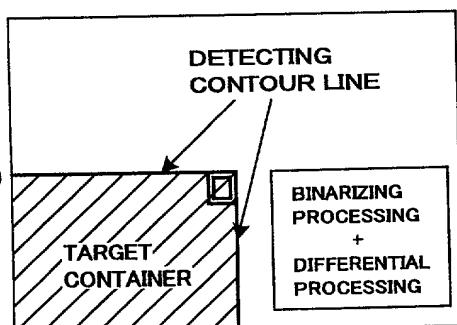
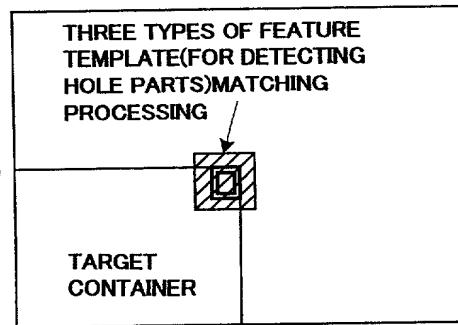


FIG. 18(b)

DETECTION RESULT ON  
CONTAINER UPPER SURFACE

FIG. 18(e)



FEATURE TEMPLATE  
(FOR DETECTING HOLE PARTS)  
MATCHING PROCESSING

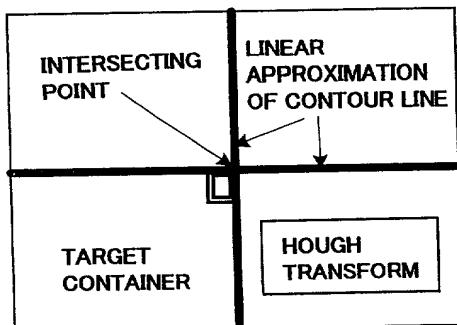
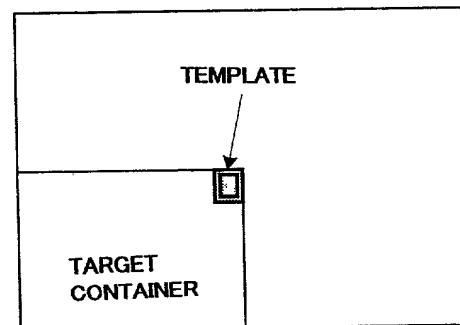


FIG. 18(c)

RESULTS OF LINEAR  
APPROXIMATION OF  
CONTOUR LINE AND  
INTERSECTING  
POINT DETECTION

FIG. 18(f)



RESULT OF TEMPLATE  
PREPARATION

FIG. 19(a)

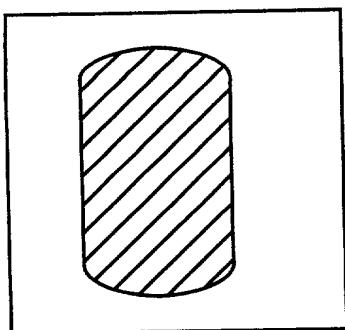


FIG. 19(c)

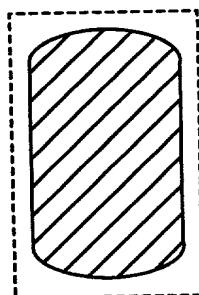
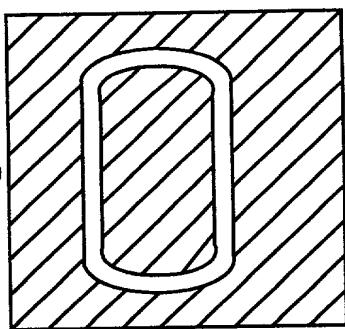


IMAGE DATA HAVING LOW  
CONCENTRATION IN HOLE PART

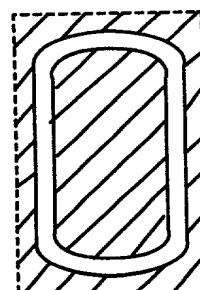
FEATURE TEMPLATE  
(FOR DETECTING HOLE PARTS)  
IMAGE 1

19(b)



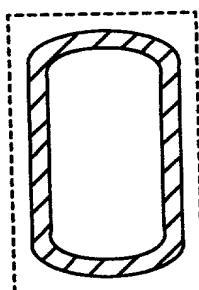
RESULT OF  
DIFFERENTIAL PROCESSING

FIG. 19(d)



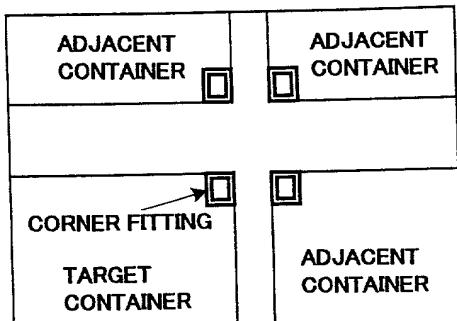
FEATURE TEMPLATE  
(FOR DETECTING HOLE PARTS)  
IMAGE 2

FIG. 19(e)



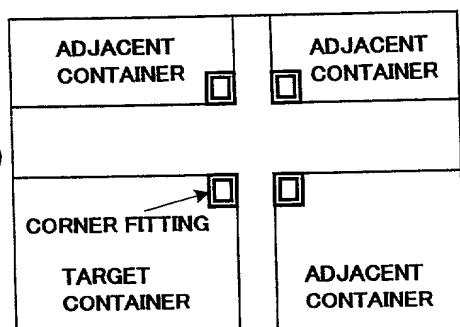
FEATURE TEMPLATE  
(FOR DETECTING HOLE PARTS)  
IMAGE 3

FIG. 20(a)



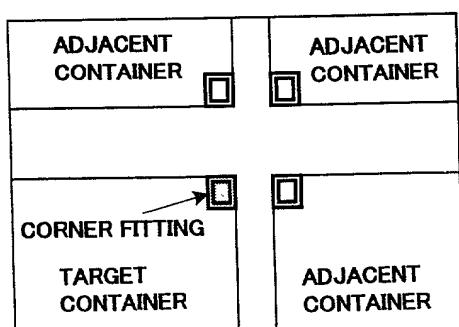
ORIGINAL IMAGE

FIG. 20(b)



FEATURE TEMPLATE  
(FOR DETECTING HOLE PARTS)  
MATCHING PROCESSING

FIG. 20(c)



RESULT OF TEMPLATE  
PREPARATION

THREE TYPES OF FEATURE TEMPLATE  
(FOR DETECTING HOLE PARTS)  
MATCHING PROCESSING  
(WHOLE IMAGE DATA)

FIG. 21(a)

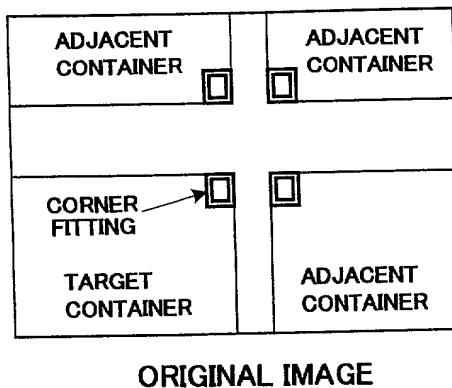


FIG. 21(d)

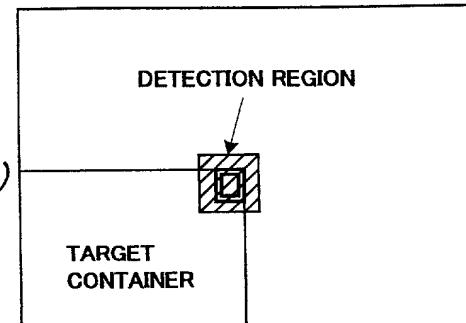


FIG. 21(b)

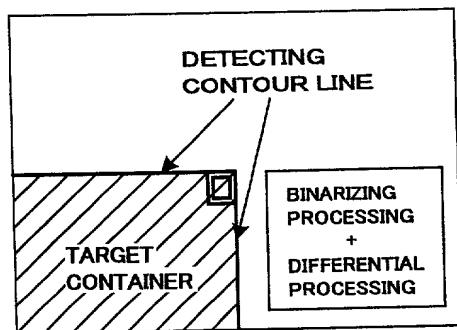


FIG. 21(e)

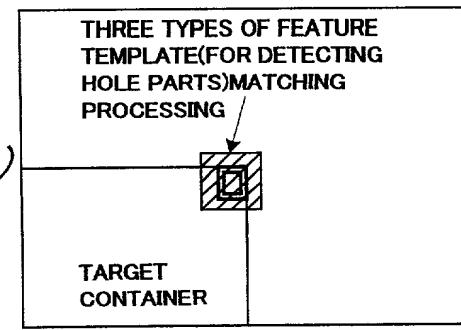


FIG. 21(c)

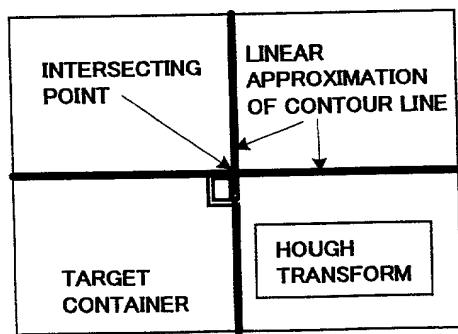


FIG. 21(f)

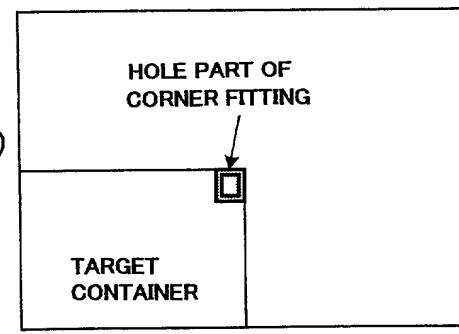
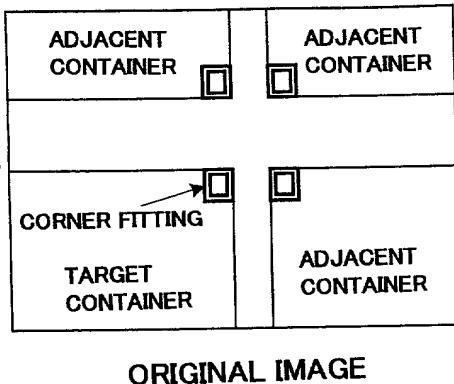
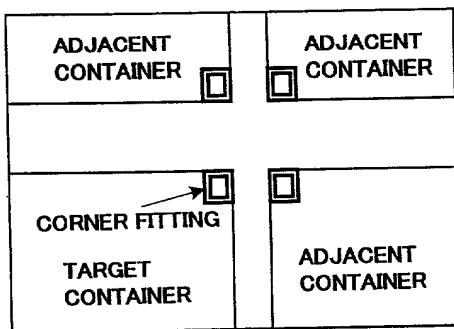


FIG. 22(a)



ORIGINAL IMAGE

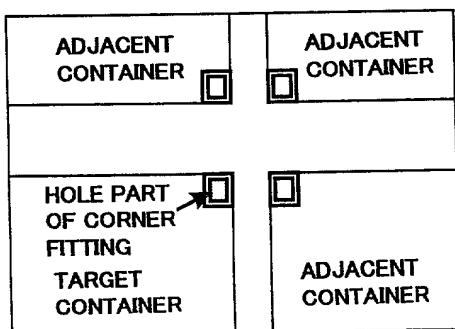
FIG. 22(b)



FEATURE TEMPLATE  
(FOR DETECTING HOLE PARTS)  
MATCHING PROCESSING

THREE TYPES OF FEATURE TEMPLATE  
(FOR DETECTING HOLE PARTS)  
MATCHING PROCESSING  
(WHOLE IMAGE DATA)

FIG. 22(c)



RESULT OF TEMPLATE  
PREPARATION